

Title: Workshop on Sustainable Infrastructure with NASA Science Mission Directorate and NASA's Office of Infrastructure Representatives

'Climate Change Impacts & Adaptation – NASA Mission & Infrastructure, Kennedy Space Center, July 28-30, 2009'

Abstract: NASA conducted a workshop in July 2009 to bring together their experts in the climate science and climate impacts domains with their institutional stewards. The workshop serves as a pilot for how a federal agency can start to: a) understand current and future climate change risks, b) develop a list of vulnerable institutional capabilities and assets, and c) develop next steps so flexible adaptation strategies can be developed and implemented. 63 attendees (26 scientists and over 30 institutional stewards) participated in the workshop, which extended across all or part of three days.

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With centers located throughout the country, NASA is expected to experience a range of climate change hazards. Depending on the region, these hazards are likely to include more extreme and frequent high temperatures, more frequent and intense precipitation events, changing water availability, and sea level rise. These changing climate hazards may undermine key NASA missions by damaging operations and critical infrastructure assets. Specific climate change impacts may include: shifting availability, reliability, and cost of water and energy and changes in safety and operations related to more extreme events (e.g. floods, fire).

NASA leads in many aspects of the science of climate change. NASA conducted a workshop in July 2009 to bring together their experts in the climate science and climate impacts domains with their institutional stewards. The workshop explored questions including: What is the state of the science and how can it be used to address NASA's needs? What are potential risks to NASA institutional capabilities and how does NASA incorporate these risks into its risk management system? How can the climate science and operational communities work together so NASA can adapt to climate change by making sustainable infrastructure and asset investment decisions?

The workshop serves as a pilot for how a federal agency can start to: a) understand current and future climate change risks, b) develop a list of vulnerable institutional capabilities and assets, and c) develop next steps so flexible adaptation strategies can be developed and implemented. It was based on a process developed by NASA's Goddard Institute for Space Studies and Columbia University's Center for Climate Systems Research with stakeholders such as New York City's Office of Long Term Planning and Sustainability, to engage participants in groups organized by climate hazards related to geography (coastal, arid or temperate) and function (facilities management, environmental management, and science.) 63 attendees (26 scientists and over 30 institutional stewards) participated in the workshop, which extended across all or part of three days.

The outcomes of the meeting include: 1) development of a science working group on climate change to provide information to operational managers at NASA, 2) a shared goal to build inter-center coordination and collaboration with other institutions in the regions where NASA Centers are located; and 3) a focus on incorporating available scientific research into each center's strategic long-term planning process.

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